

11. (Amended) An image forming apparatus according to Claim 1,
wherein an interval between said one optical box and said second optical box is equal to an
interval between two of image bearing members.

12. (Amended) An image forming apparatus according to Claim 1,
wherein said optical boxes correspond respectively to a plurality of images having different
colors.

REMARKS

Claims 1-5 and 8-12 remain in this application. Claims 6 and 7 have been canceled, without prejudice or disclaimer of subject matter. Claims 1-5, 8 and 10-12 have been amended to define more clearly what Applicants regard as their invention. Claim 1 is in independent form. Favorable reconsideration is requested.

The specification has been replaced with a substitute specification, and the Abstract has been amended in response to the objection made thereto in the Office Action. Among other changes, Applicant has replaced the original term "polarizer" and related terms ("polarize", "polarized", etc.) with --deflector--, etc. While Applicant does not regard these two sets of terms as being synonymous, it is noted that the subject matter to which the present invention is directed, as well as the structure shown in the Figures, make clear that the elements in question are elements that serve to cause a light beam to scan, and do so by deflecting the beam. Thus, it is believed clear that no new matter has been added by these amendments.

A Submission of Corrected Drawings, with corrected versions of Figs. 1, 2 and 9, is attached, in response to the objection entered to the drawing.

Claims 1-12 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,236,820 (Nakazato et al.).

First, cancellation of Claims 6 and 7 renders the rejections of those claims moot.

As is described in grater detail in the application, the present invention problems with registration occur in image forming apparatus of the type that scans plural light beams across a photosensitive surface. Typically, these problems arise where each light beam is used to form an image of a respective color component (this, however, is only an example, and the invention is not so limited), so that the several beams all scan over the same photosensitive surface in the course of forming an image for outputting. If the elements that are used to perform the deflection that effects the scanning are not perfectly aligned, it will be appreciated that the result may be misalignment or misregistration of the partial (component) images respectively formed by the various beams. Again, if temperature changes occur, or if the structure on which the deflecting mechanisms are mounted themselves become distorted in some fashion, a misalignment of the scanning mechanisms can result, and cause similar image degradation.

The present invention is intended to remedy this problem.

Independent Claim 1 is directed to an image forming apparatus that comprises a plurality of optical boxes, each of which contains at least an image bearing member, a light source, means for deflecting light emitted from the light source, and a lens, arranged to image light deflected by the deflecting means onto the image bearing member.

According to Claim 1, one of the optical boxes is stacked *directly* on a second one of the optical boxes.

Thus, among other important features of an apparatus constructed according to Claim 1, is that one optical box is stacked *directly* on another. This feature can reduce the misalignment between the boxes, to form an image of high quality.

Nakazato relates to an image forming apparatus that has multiple image forming units, one for each of three color components and a fourth for black (see, e.g., Fig. 19). As shown in that Figure, the four units are each in a respective casing of some sort, which are arranged one above another. While the specification uses the term "stacked" to describe this arrangement, it is apparent from the Figures that each image forming unit 104K, 104C, etc., is simply lodged in a respective portion of structural member 202. Even if this arrangement be deemed to be "stacking" in a sense of being one above another, nothing has been found, or pointed out, in *Nakazato* that would teach or suggest, as recited in Claim 1. For at least that reason, Claim 1 is believed to be clearly allowable over *Nakazato*.

A review of the other art of record has failed to reveal anything which, in Applicant's opinion, would remedy the deficiencies of the art discussed above, as a reference against independent Claim 1, and that claim is therefore believed patentable over the art of record.

The other claims in this application are each dependent from Claim 1, and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

Applicant respectfully requests favorable consideration and early passage to issue of the present divisional application.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE TO CLAIMS

1. (Amended) An image forming apparatus comprising:
an image bearing [body] member; and
a plurality of optical boxes, each of said optical boxes containing at least:
a light source;
[polarizing] deflecting means for [polarizing a] deflecting light
emitted from said light source; and
a lens, arranged to image [for imaging a] light [polarized] deflected
by said [polarizing] deflecting means onto said image bearing member [body; and
an optical box for containing at least said light source, said polarizing
means, and said lens],
wherein one of said optical boxes is [provided plurally and said plurality of
optical boxes are] stacked [to be integrated] directly on a second one of said plurality of
optical boxes.
2. (Amended) An image forming apparatus according to Claim 1,
wherein said one optical box has a positioning portion for receiving said second [other] of
said optical box to [be] form a stack[ed thereon].
3. (Amended) An image forming apparatus according to Claim 1,
wherein said one optical box and [other of] said second optical box are fixed to each other
by an elastic member, or by adhering or welding.

4. (Amended) An image forming apparatus according to Claim 1, wherein said one optical box has an engaging portion for engaging with [other of] said second optical box.

5. (Amended) An image forming apparatus according to Claim [1] 4, wherein said engaging portion has a notch portion.

6. (Canceled).

7. (Canceled).

8. (Amended) An image forming apparatus according to Claim 1, wherein said one optical box has an engaging portion for engaging with a main body of said apparatus.

10. (Amended) An image forming apparatus according to Claim 1, [wherein said] comprising a plurality of image bearing [body is provided plurally and said plurality of image bearing bodies are provided in correspondence with] corresponding respectively to said plurality of optical boxes[, respectively].

11. (Amended) An image forming apparatus according to Claim [10] 1, wherein an interval between said one optical box[es] and said second optical box is equal to an interval between two of [said] image bearing [bodies] members.

12. (Amended) An image forming apparatus according to Claim 1, wherein said [plurality of] optical boxes correspond[s] respectively to a plurality of [formed] images having different colors.

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